CLAIMS

What is claimed is:

1. A method for connecting a die to a leadframe, comprising:
forming metal bumps on the die,
contacting the bumps with binding fingers on a leadframe,
heating the bumps, and
pressing the bumps against the bonding fingers.

2. The method of claim 1 wherein the step of forming the metal bumps comprises stud bumping.

3. The method of claim 1 wherein the step of forming the metal bumps comprises electroplating.

4. The method of claim 1 wherein the metal bumps comprise gold.

5. The method of claim 1 wherein the step of heating the bumps comprises heating the die.

6. The method of claim 1, further comprising
supporting the bonding fingers on a substrate, and
supporting the die by a press,
wherein the step of pressing the bumps against the bonding fingers comprises applying a force to move the die and the substrate toward one another.

7. The method of claim 1 wherein the heating step and the pressing step are carried out at a temperature and pressure sufficient to result in deformation of the bump material to an extent of between about 15 % and about 20 % of the original bump height.

8. The method of claim 7 wherein the metal bumps comprise gold, and the heating step comprises heating the bumps to a temperature in the range about 100 °C to about 400 °C, and the pressing step comprises applying a force equivalent to vertically loading in the range about 10 grams to 250 grams per bump.

9. The method of claim 1, further comprising the steps, prior to contacting the bumps with the binding fingers of the leadframe, of

supporting the leadframe on a substrate, and

dispensing a measured quantity of a fill material onto the substrate within the leadframe binding fingers.

10. The method of claim 9 wherein the fill material comprises an adhesive resin.

11. A method for forming a plurality of chip-in-leadframe packages, comprising

providing a plurality of leadframes each comprising a set of bonding fingers,

providing a plurality of dies each having a set of metal bumps formed thereon,

positioning the leadframes onto a support,

placing the dies onto the leadframes such that each set of bumps contacts a set of bonding fingers,

heating the bumps, and

pressing the dies against the leadframes to compress the bumps onto the bonding fingers.

12. The method of claim 11 wherein the metal bumps comprise gold, and the heating step comprises heating the bumps to a temperature in the range about 100 °C to about 400 °C, and the pressing step comprises applying a force equivalent to vertically loading in the range about 10 grams to 250 grams per bump.

13. The method of claim 11, further comprising the steps, prior to contacting the bumps with the binding fingers of the leadframe, of

supporting the leadframe on a substrate, and

dispensing a measured quantity of a fill material onto the substrate within each set of leadframe binding fingers.

14. The method of claim 11, further comprising the steps of singulating the chip-in-leadframe packages.

15. A chip-in-leadframe package made according to the method of claim 14.

16. The package of claim 15 wherein the die is situated cavity upward in relation to the set of bonding fingers.

17. The package of claim 15 wherein the die is situated cavity downward in relation to the set of bonding fingers.

18. The package of claim 15 wherein the leads fan inwardly.

19. The package of claim 15 wherein the leads fan outwardly.